REMARKS

Amendments to the Claims

Claims 1, 3, and 5-12 are pending. Claims 13-20 previously were withdrawn after election of claims 1-12 with traverse in response to the Examiner's restriction requirement. Claim 1 has been amended to more clearly define the structure of the claimed invention. Support for the amendment may be found throughout the specification, including at Page 5, Lines 11-20. Reconsideration of the present application and allowance of the claims as amended is respectfully requested in view of the following remarks.

Rejection Under 35 U.S.C. § 103

The Examiner rejected claims 1, 3, and 6-12 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,182,795 to Baker et al. (hereinafter "Baker") in view of U.S. Patent Publication No. 2005/0053819 to Paz (hereinafter "Paz"). Claim 5 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Baker in view of Paz and further in view of JP 06-068887 to Fujiwara et al. (hereinafter "Fujiwara"). The rejections are respectfully traversed.

The Examiner has failed to establish a *prima facie* case of obviousness because the cited prior art references do not disclose each and every element of the Applicants' claimed invention. Specifically, the cited references fail to disclose that the metallic substrate of the anodic interconnect has an offset plate fin or dimple configuration which provides a flow field for a portion of the fuel gas to flow over at least a portion of the anode and anodic current collector, includes a first uncoated portion electrically

connected to the anode, and includes a catalytic coating. More particularly, the cited references fail to disclose that the flow field for the fuel gas is bounded by at least in part by the anode, anodic current collector, and the catalyzed metallic substrate of the anodic interconnect.

The Examiner suggests that Baker's description and illustration of passages 120b in Figure 5 teaches the limitations set forth in Applicants' claimed invention. Office Action dated June 20, 2008, Page 2. Applicants, however, respectfully disagree and submit that the Examiner has erroneously dismissed Baker's teachings regarding the electrolyte-isolated passages.

Applicants respectfully refer the Examiner to the Remarks submitted on March 14, 2008, which are incorporated herein by reference. In addition, Applicants set forth the following remarks.

Baker discloses a fuel cell having anode 114 and cathode 112 electrodes and an electrolyte matrix or layer 116 therebetween. Col. 7, Lines 42-45. Baker teaches use of two separately defined passages 120a and 120b. Passages 120a supply fuel gas directly to the anode 114 and are described as being electrolyte-communicative based on the gas diffusion character of the anode 114. Col. 7, Lines 49-54. Passages 120b conduct process gas through the fuel cell to serve thermal control purposes. Col. 7, Lines 60-66. Notably, passages 120b are "in flow isolation with respect to anode electrode 114." Col. 7, Lines 55-59.

Baker teaches that only the electrolyte-isolated passages 120b may include catalyst coatings. See Col. 3, Lines 1-25; see also Col. 4, Lines 62063; Col. 5, Lines 2-5;

and Col. 6, Lines 54-56. For example, boundary walls 120c, 120d, and 120e, which are "essentially impermeable to gas," are coated with catalyst 121. Col. 7, Lines 55-59.

Applicants respectfully submit that Baker fails to disclose the flow field between the anode and the anodic current collector as set forth in Applicants' claimed invention. Baker instead provides for two separately defined flow fields, one providing flow of the process gas over the anode (i.e., passage 120a) and the other providing flow of the process gas over a catalyst (i.e., passage 120b). Applicants, however, clearly require that the fuel gas flow field provide a flow field for flow of the fuel gas over the anode, the catalyst-coated metallic substrate of the anodic interconnect, and the anodic current collector.

For example, Applicants' claim clearly requires that the anodic interconnect provide "a flow field between the anode and the anodic current collector for a fuel gas flow over at least a portion of the anode and a catalytic coating on the metallic substrate." Moreover, the flow field is bounded at least in part by the anode, the anodic current collector, and the catalyzed metallic substrate of the anodic interconnect. As Applicants' clearly set forth in the Specification:

> The fuel path is *bounded at least in part by an anode, an anodic current collector, and a catalyzed anodic interconnect* .... The hydrocarbon fuel flows through the space between the anode and the anodic current collector and over *at least a portion of the anode and the catalytic coating* on the metallic substrate of the anodic interconnect catalyzes conversion of the hydrocarbon fuel in the fuel gas to hydrogen-rich reformate and the reformate is oxidized at the anode to generate electric power.

Page 5, Lines 13-20 (emphasis added).

There are several requirements which are implicit in this limitation – (1) "at least a portion of the anode remain(s) unobstructed by the ... interconnect" (Page 9, Lines 6-8), and (2) the flow field be a single flow field allowing for both hydrogen reforming and oxidizing of the reformate at the anode.

Although Baker's passages 120b may provide a flow field for fuel gas over a catalytic coating, these passages do not provide a flow field for fuel gas over at least a portion of the anode. Similarly, although Baker's passages 120a may provide a flow field for fuel gas over the anode, these passages do not provide a flow field for fuel gas over a catalytic coating or over the anodic current collector.

Baker not only fails to set forth Applicants' claimed invention, but also expressly teaches away from combining the processes of hydrocarbon reforming and oxidation of the reformate in a single flow field. For example, Baker suggests that the endothermic nature of the reforming reaction substantially reduces the catalyst activity in promoting reforming. See Col. 3, Lines 19-25; See also Col. 6, Lines 39-62. Baker also clearly sets forth that the products of hydrocarbon reforming may only be subjected to the process gas reaction to produce electrical energy by being conveyed to subsequent fuel cells in series cell applications. See Col. 3, Lines 52-55; See also Col. 7, Lines 22-41. Applicants' claimed invention, conversely, permits for both the internal reforming and oxidation of the hydrogen-rich reformate at the anode to generate electrical power in the same fuel path of the same fuel cell. Accordingly, one skilled in the art would not modify Baker to obtain Applicants' claimed invention.

Applicants further submit even if one skilled in the art were inclined to modify Baker, the teachings of Paz and Fujiwara are insufficient to overcome the deficiencies of Baker.

CONCLUSION

For the foregoing reasons, Applicants submit that the claims as amended are both novel and patentable over the cited prior art. Allowance of the pending amended claims is earnestly solicited.

If there are any issues which can be resolved by a telephone interview or with an examiner's amendment, the Examiner is invited to telephone the undersigned at 404.853.8012.

Respectfully submitted,

Elizabeth A. Lester
Reg. No. 55,373

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SUTHERLAND ASBILL & BRENNAN LLP
999 Peachtree Street, N.E.
Atlanta, Georgia 30309-3996
(404) 853-8012
(404) 853-8806 (Facsimile)